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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/005,766	11/02/2001	Antti Ruha	872.0100.U1(US)	7390
29683 7590 03/24/2008 HARRINGTON & SMITH, PC 4 RESEARCH DRIVE SHELTON, CT 06484-6212				
EXAMINER				
TRAN, PABLO N				
ART UNIT		PAPER NUMBER		
2618				
MAIL DATE		DELIVERY MODE		
03/24/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/005,766

Applicant(s)

RUHA ET AL.

Examiner

Pablo N. Tran

Art Unit

2618

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) 25-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2, 5-14, 17-24, 29-40, and 43-51 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 15, 16, 41 and 42 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 5-14, 17-24, 39-40, and 43-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over anticipated Young (6,346,832) in view of Moyer (6,566,911).

As per claims 1, 5-6, 13, 17, and 23, 39, and 43-44, Young disclosed a multi-mode Input/Output circuit for transmitting and receiving data between integrated circuits wherein each IC having at least one of transmitter circuitry (fig. 1/no. 10) and receiver circuitry (fig. 1/no. 12), that are selectively interconnected together by switches to operate as single-ended, voltage mode links, and as a single differential voltage mode link (col. 4/ln. 9-14).

Young disclosed such pair of conductor being utilized as single-ended mode but not explicitly as two single-ended modes. However, Moyer suggested such method (abstract). Therefore, it would have been obvious to one of ordinary skill in the art to provide such switching mode, as taught by Moyer, to the Multi-Channeling Apparatus of Young in order provide a flexible interface signaling for an integrated circuit and save cost.

The modified communication apparatus of Young and Moyer further disclosed the I/O circuits are constructed of CMOS-based transistors (see Moyer, abstract).

As per claims 2, 14, and 40, the modified communication apparatus of Young and Moyer further disclosed the transmitter sends data to the receiver in another IC over a first conductor and the receiver circuitry receives data from the transmitter in another IC over a second conductor (see Moyer, col. 2/ln. 11-14).

As per claims 7, 18, and 45, the modified communication apparatus of Young and Moyer further disclosed single-ended current mode (see Moyer, col. 5/ln. 16-col. 6/ln. 39).

As per claims 8, 19 and 46, the modified communication apparatus of Young and Moyer further disclosed a single differential voltage mode with single-ended input drive (see Young, col. 3/ln. 56-col. 4/ln. 14, see Moyer, col. 5/ln. 42, col. 7/ln. 30-38).

As per claims 9, 20, and 47, the modified communication apparatus of Young and Moyer further disclosed single differential voltage mode with differential input drive (see young, col. 3/ln. 56-col. 4/ln. 14, see Moyer, col. 4/ln. 21-23).

As per claims 10, 21, and 48, the modified communication apparatus of Young and Moyer further disclosed single differential current mode with single-ended input drive (see Moyer, col. 4/ln. 21-23).

As per claims 11, 22, and 49, the modified communication apparatus of Young and Moyer further disclosed single differential current mode with differential input drive (see Moyer, col. 4/ln. 19-col. 5/ln. 8).

As per claims 12, 24, and 50, the modified communication apparatus of Young and Moyer further disclosed switches are provided to convert said I/O into either transmitter or receiver circuitry (see Moyer, abstract, col. 1/ln. 8-22).

3. Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over the modified communication apparatus of Young and Moyer and further in view of Pena-Finol et al. (5,832,370).

As per claim 51, the modified communication apparatus of Young and Moyer does not specifically teaches that the IC comprises of RF and where at least one of said IC is a base-band IC. However, Pena-Finol et al. teaches such IC (fig. 2). Therefore, it would have been obvious to one of ordinary skill in the art to provide such RF IC, as taught by Pena-Finol et al. to the modified communication apparatus of Young and Moyer in order to provide a compact-cost effective communication apparatus that facilitates communication without interference.

Allowable Subject Matter

4. Claims 3-4, 15-16, and 41-42 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. The Applicant submitted a Declaration under rule 131 on 12/16/07 to disqualify Moyer as prior art against the instant Application. However, The evidence submitted is insufficient to establish a reduction to practice of the invention in this country or a NAFTA or WTO member country prior to the effective date of the Moyer reference. In this instant application, the Applicant(s) has not presented any concrete evidence for establishing "reasonable diligence to reduction to practice" as required according to MPEP 2138.05-06. Therefore, Moyer is a pertinent prior art.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pablo Tran whose telephone number is (571)272-7898. The examiner normal hours are 9:30 -5:00 (Monday-Friday). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban, can be reached at (571)272-7899. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) System. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.ushpo.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 16, 2008

/Pablo N Tran/

Primary Examiner, Art Unit 2618